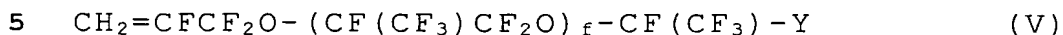


## CLAIMS

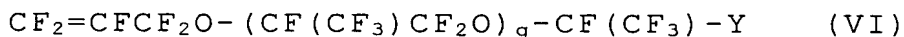
1. A tetrafluoroethylene polymer aqueous dispersion obtained by carrying out a  
 5 tetrafluoroethylene polymerization in an aqueous medium in the presence of a fluorovinyl group-containing emulsifier,  
 wherein said tetrafluoroethylene polymer aqueous dispersion contains a particle comprising a  
 10 tetrafluoroethylene polymer dispersed in said aqueous medium,  
 said fluorovinyl group-containing emulsifier comprises a fluorovinyl group-containing compound (I) represented by the general formula (I):  
 15  $\text{CF}_2=\text{CF}-(\text{CF}_2)_a-\text{Y}$  (I)  
 wherein a represents an integer of 1 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal,  
 a fluorovinyl group-containing compound (II)  
 20 represented by the general formula (II):  
 $\text{CF}_2=\text{CF}-(\text{CF}_2\text{C}(\text{CF}_3)\text{F})_b-\text{Y}$  (II)  
 wherein b represents an integer of 1 to 5 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal,  
 25 a fluorovinyl group-containing compound (III) represented by the general formula (III):  
 $\text{CF}_2=\text{CFO}-(\text{CFX})_c-\text{Y}$  (III)  
 wherein X represents F or  $-\text{CF}_3$ , c represents an integer of 1 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$   
 30 in which M represents H,  $\text{NH}_4$  or an alkali metal,  
 a fluorovinyl group-containing compound (IV) represented by the general formula (IV):  
 $\text{CF}_2=\text{CFO}-(\text{CF}_2\text{CFXO})_d-(\text{CF}_2)_e-\text{Y}$  (IV)  
 wherein X represents F or  $-\text{CF}_3$ , d represents an  
 35 integer of 1 to 10, e represents an integer of 1 to

3 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal, a fluorovinyl group-containing compound (V) represented by the general formula (V):



wherein f represents an integer of 0 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal, and/or a fluorovinyl group-containing compound (VI)

10 represented by the general formula (VI):



wherein g represents an integer of 1 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal,

15 said tetrafluoroethylene polymer aqueous dispersion has a fluorine-containing surfactant content of not higher than 1000 ppm by mass.

2. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, wherein the tetrafluoroethylene polymer has a tetrafluoroethylene unit content exceeding 40 mole percent.

25 3. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1 or 2, wherein the tetrafluoroethylene polymer is a perfluoro-based polymer.

30 4. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, 2 or 3, wherein the tetrafluoroethylene polymerization is carried out in the absence of any non-byproduct fluorine-containing surfactant.

5. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, 2, 3 or 4, wherein the fluorovinyl group-containing emulsifier comprises the fluorovinyl group-containing compound (I), the fluorovinyl group-containing compound (III), the fluorovinyl group-containing compound (IV) and/or the fluorovinyl group-containing compound (V).
6. The tetrafluoroethylene polymer aqueous dispersion according to Claim 5, wherein the fluorovinyl group-containing emulsifier comprises a fluorovinyl group-containing compound (i) represented by the general formula (i):
- $$\text{CF}_2=\text{CF}-(\text{O})_h-(\text{CF}_2\text{CF}(\text{CF}_3)\text{O})_i-(\text{CF}_2)_j-\text{Y} \quad (\text{i})$$
- wherein h represents an integer of 0 or 1, i represents an integer of 0 to 2, j represents an integer of 1 to 3 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal, and/or a fluorovinyl group-containing compound (ii) represented by the general formula (ii):
- $$\text{CH}_2=\text{CF}\text{CF}_2\text{O}-(\text{CF}(\text{CF}_3)\text{CF}_2\text{O})_k-\text{CF}(\text{CF}_3)-\text{Y} \quad (\text{ii})$$
- wherein k represents an integer of 0 to 3 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  $\text{NH}_4$  or an alkali metal.
7. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, 2, 3, 4, 5 or 6, which has a solid matter concentration of 5 to 70% by mass.
8. The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, 2, 3, 4, 5, 6 or 7, wherein the particle comprising the tetrafluoroethylene polymer has an average primary

particle diameter of 50 to 500 nm.

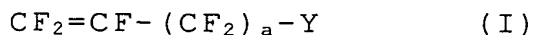
9. A tetrafluoroethylene polymer powder which is obtained by coagulating the tetrafluoroethylene  
5 polymer aqueous dispersion according to Claim 1, 2, 3, 4, 5, 6, 7 or 8.

10. A tetrafluoroethylene polymer molding which is obtained by molding/processing using the  
10 tetrafluoroethylene polymer aqueous dispersion according to Claim 1, 2, 3, 4, 5, 6, 7 or 8 or the tetrafluoroethylene polymer powder according to Claim 9.

15 11. A method of producing a tetrafluoroethylene polymer aqueous dispersion by carrying out a tetrafluoroethylene polymerization in an aqueous medium in the presence of a fluorovinyl group-  
containing emulsifier,

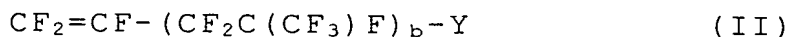
20 wherein said tetrafluoroethylene polymer aqueous dispersion contains a particle comprising a tetrafluoroethylene polymer dispersed in said aqueous medium and has a fluorine-containing surfactant content of not higher than 1000 ppm by  
25 mass,

said fluorovinyl group-containing emulsifier is added in an amount of 0.00001 to 2% by mass relative to said aqueous medium, and  
said fluorovinyl group-containing emulsifier  
30 comprises a fluorovinyl group-containing compound (I) represented by the general formula (I):



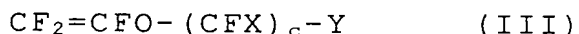
wherein a represents an integer of 1 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  
35  $\text{NH}_4$  or an alkali metal,

a fluorovinyl group-containing compound (II)  
represented by the general formula (II):



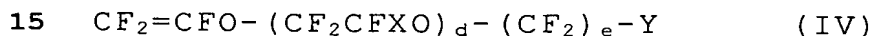
wherein b represents an integer of 1 to 5 and Y  
5 represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  
 $\text{NH}_4$  or an alkali metal,

a fluorovinyl group-containing compound (III)  
represented by the general formula (III):



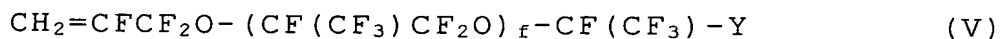
10 wherein X represents F or  $-\text{CF}_3$ , c represents an  
integer of 1 to 10 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$   
in which M represents H,  $\text{NH}_4$  or an alkali metal,

a fluorovinyl group-containing compound (IV)  
represented by the general formula (IV):



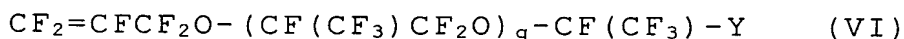
wherein X represents F or  $-\text{CF}_3$ , d represents an  
integer of 1 to 10, e represents an integer of 1 to  
3 and Y represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M  
represents H,  $\text{NH}_4$  or an alkali metal,

20 a fluorovinyl group-containing compound (V)  
represented by the general formula (V):



wherein f represents an integer of 0 to 10 and Y  
represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  
25  $\text{NH}_4$  or an alkali metal, and/or

a fluorovinyl group-containing compound (VI)  
represented by the general formula (VI):



wherein g represents an integer of 1 to 10 and Y  
represents  $-\text{SO}_3\text{M}$  or  $-\text{COOM}$  in which M represents H,  
35  $\text{NH}_4$  or an alkali metal.

12. The method of producing a tetrafluoroethylene  
polymer aqueous dispersion according to Claim 11,  
35 wherein the addition of the fluorovinyl group-

containing emulsifier is carried out in the manner of a supplementary addition with the progress of a tetrafluoroethylene polymerization reaction.